



Scales used for weighing scrap precious metals and jewelry

1. Selection requirements – (G-UR.1.1. Suitability of Equipment, *NIST HANDBOOK 44*)

A primary concern in determining the appropriateness of a scale for this application is the value of the scale division. The minimum load (mass on scale) to be weighed should be equal to at least 50 scale divisions. The reason for this is to minimize the error in the weighing process caused by the uncertainty of one-half the value of a scale division.

Examples:	If the smallest load is	the value of scale division should be no larger than
	5 grams	0.1 gram
	0.1 oz troy	0.002 oz troy or 0.04 dwt
	0.5 oz troy	0.01 oz troy or 0.2 dwt

2. Posting value comparisons

To avoid misunderstandings with customer's determining which is the best sales value when some buyers use equipment graduated in troy units and others use equipment in other than troy units, the appropriate common denominator in the sale of precious metals is troy weight. Anyone using a scale graduated in other than troy weight should express the buying price in both troy and the other unit.

Examples:	\$100 / troy ounce	\$5 / pennyweight (dwt)	\$10 / pennyweight (dwt)
	\$3.215 / gram	\$3.215 / gram	\$6.43 / gram

In addition, the appropriate unit equivalents and conversion factors should be posted.

Examples:

1 pound (troy) = 12 ounces (troy) = 240 pennyweights (troy) = 373.24177 grams
 1 pound (avdp) = 14.5833 ounces (troy) = 291.66 pennyweights (troy) = 453.5924 grams

1 ounce (troy) = 20 pennyweights (troy) = 31.10348 grams = 480 grains
 1 ounce (avdp) = 18.23 pennyweights (troy) = 28.3495 grams = 437.5 grains

1 ounce (troy) = 1.09714 ounces (avdp)
 1 ounce (avdp) = 0.9115 ounce (troy) = 16 drams

1 pound (troy) = 0.822857 pound (avdp)
 1 pound (avdp) = 1.21528 pounds (troy)

Also information concerning the quality of the gold should be posted.

Examples:

24K (karat) is pure gold	14K is 58.3 percent
18K is 75 percent	12K is 50 percent

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